VULCAN

OR

THE FUTURE OF LABOUR

TO-DAY AND TO-MORROW

For the Contents of this Series see the end of the Book

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The Future of Labour

BY

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CHAPTER I

The Machine and the Man

Two diverse futures are prophesied for the worker. There is the American vision, which dazzles the imagination. We behold a plutocrat in overalls, the owner of cars, coronas and a country cottage. Darkest Europe steeps the other picture in a quite Stygian gloom. The worker is to return to helotry, slaving long hours on low wages in order to undercut the skilful savage.

Partially, at least, both visions are on the way to accomplishment. Both may be approximated by neighbours in many a side street of a European city.

Recently, a German carpenter called

at a woman teacher's flat in Schenectady to mend a door. The man wore a worried look. The door having been restored, he prepared to depart in his seven-seater limousine. But his frown remained.

A parting chat educed the reason for the wrinkled brow. "The fact is, I must have another car for my own use. The wife and children need the limousine all the time. I shall have to buy a new Ford coupé for myself. That will cost me another £70. It is a nuisance—but I simply must have a second car." The elderly school-mistress duly sympathized. Car-less herself, perhaps she rather envied this member of a more plutocratic profession.

Nor are these conditions confined to the United States. There are a number of ably-managed British concerns which pay a minimum wage of £5 per week, which is worth considerably more than 25 dollars in the States.

On the other hand, the wages of a skilled British fitter in 1926 were little better than those he earned in 1913. Yet, in that time, the cost of living has increased by 70 per cent. He is probably

making £2 16s. a week; of which 12s. 6d., or nearly one-fourth, may be spent in rent. He has, therefore, exactly £2 3s. 6d. with which to provide food, clothing and the zest of life for himself and his family.

Admittedly, these are extreme cases. But they typify the two current trends. Both trends are at work in every industrial community in Europe. The second may affect only "black-coated workers" or farm labourers in the new countries. Even it may be confined to those in unsheltered trades in the old countries. Unhappily, great masses of population are embraced in each of those categories.

Along which road will the majority of mankind be marching to-morrow?

The present writer has no sort of doubt as to the ultimate answer of history. The creative genius of the human race is presently centred on the machinery of production. Daily we improve and multiply the machine. The resulting mastery over materials is astonishing. Definitely our civilization is committed to evolution on industrial lines. This is our ineluctable destiny; and it means the

eventual release of the factory worker from fatigue and poverty.

The evolution of industry has been as rigidly conditioned by physical law as the evolution of the beehive. Fundamentally considered, what is the industrial process? Simply the application of motion to materials. There is no industrial process, from the making of a tiny wrist-watch to the irrigation of an Eastern desert, which cannot be reduced to these two terms.

Consider the case of coal-mining. In this industry no fundamental change is made in the raw material. The coal is merely hewn from the seam; broken into convenient sizes; moved from the seam to the pit-head; from the pit-head to the warehouse; from the warehouse to the local distributor; and from his shed to your cellar.

Where the nature of the material is changed by processes of fabrication, the result is invariably secured by the application of motion in one form or another to the material. The motion may be applied to changing the arrangement of the individual atoms of the material, as when pig iron is smelted.

Or it may be applied to changing the shape of the material, as when iron is cast. Again, it may be applied to amalgamating or combining one material with another, as when glass is made from silica and salt-cake.

Whether we be constructing a modern motor car, or weaving a Brussels carpet, the means we use are ever the same. We merely move materials from one place to another and from one state to another; from one combination to another and from one shape to another. What Pythagoras said of his Greek world two thousand years ago is true of industry to-day—"All is motion."

Analysed into its elements, the task of every worker comes within the general formula—the application of motion to material.

Viewed thus, the field of industry can be seen in a new light. Its fundamental nature becomes clear. The possibilities for economy of time, labour, and materials are visible. Obviously, the means to progress must lie in reducing the motions and the amount of material used to make anything from a mustard pot to a Cunarder. Now the greatest saver of

time and material is the machine. Subject to no human limitation of weakness, fatigue or nerves, the machine is capable of exercising colossal force at fantastic speed—and this with undreamt-of precision.

A little observation will convince you of one fact. The work left by the machine for human hands grows beautifully less.

Already the labourer is used almost entirely for fetching and carrying. Yet every day the automatic conveyor absorbs more of his back-breaking toil.

What of the skilled and semi-skilled workers? In the case of the small hand-worked machines, one hand feeds metal or parts, while the other holds them in place and, possibly, the foot is used to drive the machine. In the case of the small automatic, whether overhead shafting or individual electric drive be used, the operator's job begins and ends with feeding and controlling the operation. The larger automatic likewise calls for both feeding and control, often for a true eye and accurate fingers.

Coming to the bigger machines, you will notice that a girl may be feeding the

brute, while a man operates it. Again, accuracy of eye and deftness of fingers are essential. But when a new model automatic stands beside an older, one significant change may frequently be noticed. The new machine supplies itself with material on which to work by means of a delicate, steel-fingered automatic feed. Man's part consists merely in controlling each separate operation by a touch or a single quick motion; the next model may deprive him of even that duty of providing some form of automatic control, rendering continual operation possible. So the semi-skilled feeder and the skilled operator give way to a single unskilled "machine minder." And this super-man in overalls (*ætat.* eighteen) may be running not one, but a battery of monsters. (This will depend a good deal on the Trade Union current regulations. A single operator may control two or three of a certain type of machine quite comfortably from his swivel stool in an American factory; but a skilled man and an unskilled assistant may be demanded for each one of these identical machines in a European shop.)

Suppose we walk into a modern factory

and see for ourselves how the men and the machines are engaged in applying motion to materials.* You observe that much of the plant and the man-power is being used *merely to convey* raw materials, component and finished goods. Anything from 5% to 50% of the cost of making any article from a watch-case to a motor-car consists in conveyance.

Notice the travelling belt conveyor, carrying components from process to process, and accumulating components into the finished product. Out in the yard, an electric crane is dealing with seventy tons of coal per day; yet only two men are at work on it. Down in the engine-room, a mechanical stoker is doing the work of a dozen perspiring firemen; all this at a mere pulling of a lever. These tiny parts for a delicate mechanism are being carried all round the factory by a small belt conveyor—at a cost of one penny for four hours' work.

In this spare-parts department another belt conveyor takes care of all the

Every method and machine cited in this chapter has been studied in action in one factory or another, by the writer; but in certain instances only one concern has adopted it.

correspondence from its arrival to the final dispatch of the parts required. No office messenger touches the letters; the girl clerks use the conveyor instead; while coloured lamps on their desks signal the completion of each stage of the work of entering, checking and dispatch. Overhead conveyors are now so cunningly contrived that they pause before each worker on their passage round the factory; pause just long enough for him to complete his operation and pass on.

Suppose we pause by this curious guillotine-like machine. The workman is feeding it with strips of canvas, which it is cutting to the necessary shape. Twelve months ago the man was doing the work with a large pair of shears; naturally enough, his forefinger and thumb developed painful callosities.

One day, the director sent him home to rest the injured hand. After long investigation abroad, he tracked down this machine. It cuts fifty sheets of canvas in the time that the man required to cut one. And no effort is required of the man—far less a penalty of pain. Presently, I foresee, an automatic conveyor or feed will supply canvas to the

machine. So the man's work may consist in *watching* and repairing the machine.

In other words, the machine will perform *all* the motions involved in shaping the canvas. The workman who shaped each piece of canvas with his own hand and eye will become merely the controller of the machine.

Turning into the finishing departments, there are new monsters to be admired. The huge enameller over there, deals with 5,000 pieces per day—although the process takes an hour to complete; yet only two men are required to control it. The parts are dipped into the enamel by an electric crane and removed, after their hour's bath, by one of the men. In other words, transport and operation are carried on until the last moment, almost without human interference.

To see how perfectly the big machine, performing a multitude of processes at one operation, can dispense with human service, you must view leviathans yet more fabulous and fecund. I know no pleasure more sobering than to spend an evening amid the roar of the machine room of a London daily newspaper.

Here you will find paper fed in at one level of the leviathan, while from another flows a stream of printed, folded, cut and numbered newspapers of sixteen pages—without the touch of the human hand. All night long, the engineers and machine minders are concerned solely with very minor adjustments of feed, speed and lubrication. The huge Hoe multiple presses are entirely self-sufficient; the human beings who minister to them look like irreverent flies, crawling across the face of the Power God.

Nor is the revolution confined to the factory. Neither shop nor office can avoid its onward march. For the most devoted servants of the machine there is no certain future. While the adding machine seizes the work of grey-haired book-keepers, the addressing machine is steadily elbowing the clerk out of existence. The very hand-maidens whom the typewriter brought into the business office may eventually be dismissed in favour of the automatic dictating and typing machine.

One young girl should be able to check up the work of a roomful of these automatic secretaries, not to mention that of

the enveloping, addressing, stamping and counting machines, used to finish off the work.

Yet these are but the beginnings of the machine's career. Already it strides far beyond the mere routine labours of letter-writing and book-keeping. Many of the more delicate operations of even the administrative office, such as recording, tabulating, and classifying results, are being turned over to the machine. Only the other day I asked whether the results of a certain very intricate piece of business research into market conditions had been completed by the consultant to whom it had been entrusted. The expert explained that all the material was now "in the hands of the automatic calculator people for analysis and scientific classification."

In other words, a power-driven monster, roaring in some upper-room, was recording all the mass of data received, on cards. Soon it would classify and collate the whole of the variegated information on thousands of those cards, along the exact lines laid down by the consultant. Probably, the information

would be summarized alphabetically, geographically and by subject.

Here is a machine which differentiates card from card, in terms of the information each contains. Surely its inventor came very near to giving mankind a machine which can think! Already the Robot is nearer than we imagine. It is no far step from the automatic tabulators —those giants which now help many of the chief Governments through the labour of the census.

So far we have been trying to see the machinery of modern industry for ourselves. We have been observing facts rather than formulating theories. But some working principles we require. To what conclusions do these observed facts lead us?

I think we may agree on three non-debatable points. The new machine is taking the backache out of industry for its humbler servants. Very soon no one will require to bend his back for a living. To operate a conveyor is less tiring than to become a human mule, bearing sacks on one's back. Further, to operate or control a machine is lighter work than to feed it.

On the other hand, although the volume of his output steadily rises, through the help of plant and power, there is less and less *work* for both casual and skilled worker to do.

Finally, the task of the average factory worker becomes steadily smaller in range and scope. Increasingly, he will be dedicated to one machine and one operation. Apparently a large portion of mankind must focus all its working energies on the making of the thirteenth part of a pin.

A certain manufacturer is building a new factory. In it everything that can conceivably be done by the machine will be left to it. He will make it a crime, he avers, for a man to go home tired at night. "To be bored by his job will be equally heinous," my friend adds.

Yet to that crime I fear that not a fraction less than 100% of his workers, if not of his staff, must ultimately plead guilty. For monotony is inescapable in the most model of machine shops. And monotony is twin-brother to boredom; both are born in the same instant; both flourish and increase from day to day

until they overcloud their victim's entire horizon.

Ease is the certain blessing brought to mankind by the machine; monotony is the no less certain curse. In studying the future trend of labour we shall be closely concerned with both.

CHAPTER II

Exit the Foreman

Our age is still obsessed by the alleged class struggle between Capital and Labour. So completely dominated are we by this idea that we fail to observe the growth in power of the two other partners in modern industry—the machine and the manager. At the factory door the imagination of the very ablest thinkers on the subject appears to halt and fail. Even so acute an observer as Mr. Bernard Shaw writes of the machine as if he had never observed two gears in mesh. To Mr. Sidney Webb management is simply a branch of the Civil Service.

Happily the clouds begin to break. Mr. Webb has recently asked for an audit of the management methods of co-operative societies! Even he begins to doubt the efficiency of that blessed principle "promotion by seniority," when applied to a mere shopkeeper.

In cold fact, the future lies with these two neglected factors, management and machine, rather than with financier or worker. It is they who will direct the future trend of industry. With them will rest its future policy; inevitably labour's destiny will be of their dictation.

Daily the power of money wanes; whatever the bank chairmen may say to the contrary, if one thing is certain, it is that neither bankers nor financiers played any serious part in the post-war deflation of any major European currency. Both were powerless in the hands of purely industrial and economic forces. Every day drives home the fact of this new revolution. The age of mergers marks the death struggle. Finance *per se* cannot control the trust. How it all happened is a long story. The fall of Dives is matter for another book!

Our business here is to discover just what part machine and manager will play in shaping the future of labour. In the writer's view, their part will be paramount. We have seen how the machine has robbed the worker of his three great bargaining weapons—his brawn, his tools and his skill. Soon the machine will

deprive him of his last asset—experience. The new machine requires none of its controller.

When the general strike occurred in Great Britain, it was found that raw boys and girls could do all the work of producing the daily newspaper—save that of operating the intricate linotype machine. When the typists of a Western daily journal asked to be allowed to "take over" the linotype room, they were gently ridiculed. Given the opportunity, however, they were able, after two days' practice, to set, nightly, all the copy for a sixteen-page paper!

No experience is required to "mind" the most delicate of modern machinery, small or large. A novice can master almost any machine, from linotype to locomotive, in forty-eight hours. The most elementary type of technical education supplies all the skill necessary; and technical education is becoming general all over industrial Europe.

It may be worth while to study more closely the direction of modern management. Thirty years ago, you remember, the foreman ran his own corner of the factory. Plans for work and standards of

workmanship alike were lodged in his overtaxed brain alone. Naturally, he worked largely by rule of thumb. When he left in a hurry, the result was chaos and black night.

What was to be made, and how, he alone decided. Materials were largely of his choosing; schedules of work were of his planning. And Heaven help you if the colour of your hair displeased him! For his word was law (even to the young master); and his vocabulary was apt to be lurid.

Nominally, the general manager and the "old man" managed. Actually, they went in fear of their foreman. The general manager was chiefly concerned with the buying of materials and with the quality of workmanship. The owner personally secured a good deal of the business; and when orders came easily, he might become a nuisance about the place. But the foreman was the mainstay of the establishment. For every job was a different job; every customer had his own whims; and only the foreman knew just how these whims were to be met.

The men worked a ten or an eleven

hour day; for which they were paid anything from 15s. to £2 a week. Their work was arduous and demanded ceaseless resource. But it was varied, and at times, absorbing. Generally speaking, conditions of work were thoroughly bad; and the worker anticipated skin diseases as inevitably as the trade cough, crick or fever. Probably he knew his employer by his first name; if the man broke a leg or if his baby died, his employer really was concerned. His lady was dispatched forthwith to the cottage to see what could be done. One knew the state of the order book by his face after post-time. Normally, the worker endured a hard life under a mean master; but his life had a certain quality of camaraderie about it.

About 1890 a new ally came to the aid of the management. Certain engineers with scientific training turned their attention to factory production. Hitherto men of this calibre had confined their methods to the fields of pure science and engineering, with occasional excursions into popular invention. The results of the application of scientific methods to factory practice were startling. Briefly,

the engineers asked business men to apply the exact methods of science to every phase of production, from the treatment of steel for cutting tools to the designing of a spade for easy digging or the arrangement of bins to prevent muddle in the stock room.

Unfortunately, the ablest of these engineers, the late Mr. Frederick W. Taylor, was innocent of the first elements of human psychology—which was not really surprising, since the science of psychology was as yet unborn. Unluckily, Mr. Taylor united to his ignorance of human nature an intense and almost child-like solicitude for his various employers' balance sheets. The result was the gradual evolution of a "scientific" management almost perfect in theory and quite useless in practice. Even American labour struck at Taylorism. As a result, Taylor's *theory* is now largely discredited, while a modified use of his *practice* is at work in most efficient factories throughout the world.

The old-fashioned foreman, industry's invaluable sergeant-major, is gone. With him has passed the old proud captaincy

of his own water-tight compartment. There reigns in his stead a foreman who is concerned very often only with one side of his men's work. True, Taylor's elaborate scheme of functional foremanship, with its various " bosses " for speed, workmanship and material control has passed largely into limbo ; yet in certain of its features it has been generally adopted.

So most of the functions of industry's former Admirable Crichton (the foreman) have been filched from him. In the planning department executive and staff worry themselves grey as to what each man and machine shall do day by day, from hour to hour. In the drawing office even the ways in which small tools are to be used are determined in detail. Materials and parts are under the strict care of the stock-room clerks, and they can be obtained only on presentation of a requisition signed by an official. All that the modern foreman is seriously concerned with is getting the job done with the requisite speed ; the machines themselves effect the necessary accuracy. Sometimes, however, the " chasing " of raw materials for his

piece-workers is his chief task. Mr. Ford's plan of allowing the foreman simply to work at the job along-side his men is still unpopular in Europe. Yet it is the logical outcome of present-day practice.

In other words, the machine and the manager have virtually denied to the worker any opportunity to exercise skill, thought or feeling over the job. The average worker to-day comes into the shop about eight o'clock, hangs up his coat, dons his overalls, and starts up his electric motor by the turn of a switch; material lies ready by the automatic, which has been set for the same old operation. In a few minutes machine and motor are giving their normal output of two, ten or, it may be, twenty parts per minute. And the machine keeps on feeding in and jerking out parts, hour after hour—until the midday luncheon break. (There may be a few minutes' break and welcome gossip about ten; or there may not.) After lunch the programme is repeated for another four hours—until knocking-off time. Talk will be free; but it can scarely be general

Usually the conditions of work are reasonably good; in some motor works and cotton factories they are genuinely agreeable. The happiest shops I know, however, are those small and highly efficient factories, concentrating on one speciality or another, that cluster round the Midlands and the smaller towns of the North. Here you may hear the girls singing together and chatting merrily the day long. Generally speaking, the small factory is the popular one.

Hours are much shorter now; the eight-hour day becomes increasingly the standard throughout Europe. By five o'clock most of the world's factory workers are "packing up" in these days. If they had their own way, they would probably start earlier and stop earlier.

About 1921 the workers of many German and Italian factories were practically dictating their own conditions of work. One afternoon, walking through a famous works in Cologne, I was astonished to hear the whistle go, and to see the men knocking off at three o'clock. The director informed me that his workers preferred to come in at 7 o'clock in the morning, taking a half-hour only

for lunch, so that they could leave off at this time. The difficulties of his executives, working in a country in which the English (eight to five) working day becomes increasingly general, can be imagined. Personally, I think the workers showed excellent judgment; for in this way they could enjoy at least an hour's fresh air before dark on even the shortest winter day.

Unlike his father, our worker has the very decided respect of the executives. The least reasonable manager keeps his tongue and his tone under check in these days. A hasty word or a clumsy rebuke may bring a shop steward down on his track; obstinate refusal to apologize may end in a deputation, complete with spokesman and secretary, marching into the managing director's sanctum. A deputation a week is a common allowance in the agenda of British directors.

In most trades the worker knows that the Insurance Act will secure him free medical treatment and succour in sickness. But his job is not entirely secure, save when prosperity and a powerful union or exceptional ability make it so. During his first three months of unem-

ployment, however, his State Insurance will come to his rescue.

Undoubtedly the modern worker in a great modern factory has a feeling of insecurity only occasionally felt by his father, busied about farm or jobbing shop. All over Europe employment has been desperately uncertain for twelve years now. Trade fluctuations are far more violent than they were before the War. Individual firms are less secure of their share. The factory that worked overtime all through last winter may close down this winter; a foreign rival paying sweated wages, a better design by a home competitor, a poor harvest in the East, any of these may topple over the frail supporting frame of happy circumstance on which the village or the town's prosperity was based.

Women cease to wear lace petticoats; they replace the old frilly curtains with bright-patterned chintz—and Nottingham (England) sees a part of its thrifty folk, master and men, shopkeepers and salesmen alike, temporarily at least ruined. For the lace-maker knows no other trade; only the young folk can find a new future in the cycle or chemical factory.

So the worker of to-day, outside the ever-fortunate Americans, is genuinely and warrantably concerned about his future.

His one sheet-anchor is the union. To him it appears as a Great Rock. To it he goes for work; without a union ticket, he can hope for none. With it he leaves his cares for the future—for the union normally gives sickness benefits as part of its services. From its action he secures any and every possible rise in wages and betterment of conditions. In its strong hands he places all his grievance—and it champions him far more efficiently, as a rule, than the executives can defend their shareholders. For a lifetime of bargaining makes the trade union official an infinitely abler debater and diplomat than the harassed executive whose mind is on production, selling or finance. The defter trade union officials normally wipe the floor with the employer. Only one or two of the ablest members of an employers' association are capable of dealing with a really eloquent and masterful union official. The rest are simply at the skilled advocate's mercy.

Recent events in Great Britain have done something to diminish the supremacy which his union had won over the mind of the average worker. But the union will rapidly regain the ground lost through incompetent leadership in the British Miners' Federation. Almost insensibly, inch by inch, one can see the unions winning back lost prestige. The lack of psychological and tactical education among so many employers is the guarantee of a revival in the unions' power.

An instance will tell more than pages of explanation. There is one particular British industry in which the employers feel that once again they are in control of their own businesses. At last they have killed the tyranny of the shop steward over the men; the dead hand is removed from the delicate driving gear of their organizations—or so they fondly believe.

Recently an executive in a flourishing concern in this very industry engaged a new messenger boy of sixteen at a wage of seventeen and sixpence per week. One day he thought it might be worth while to test the boy's handwriting. So

he set the lad to copy some writing at a desk just outside his private office.

Shortly thereafter a gentleman in shirt-sleeves arrived, explaining that he was the steward of the clerical section. The boy outside was doing clerical work; had he a clerical union ticket? If not, he must obtain one forthwith, and his wages must be raised to thirty-six shillings per week. As the gentleman dictated, so it fell out. How can one solitary manager risk involving his whole industry in an industrial dispute over eighteen shillings and sixpence per week for an office boy? He gives way instead; and his action is multiplied in every concern in the industry.

Further, how can I insist on even poking my own fire, or putting a new electric bulb in my reading lamp—if I am without the necessary union ticket? Ultimately a maintenance man with a union ticket will point out that these are *his* jobs. These things happen every day.

In other words, the individual manager or director is powerless to stop the encroachment of organized labour on his managerial prerogatives. Inevitably the

tide of union control must gradually eat away his authority. Even in the United States this is happening to-day.

Where lies the remedy?

Once in every five or six years management may be driven to despair, out of which only a general strike or a series of lock-outs can possibly deliver it.

In other words, trade union restrictions are the desperate reply of the worker to new conditions, brought about by the modern machine and modern management, which frankly terrify him—truly a perfectly insane and suicidal reply, as the merest smattering of industrial economics would tell him.

Yet if that reply give him back temporarily the feeling of *security* and control which he so urgently desires, can you blame him for giving it?

CHAPTER III

The Age of Labour Reprisals

At the present moment life is easier, and work less arduous for the worker in every part of Europe known to me. The motor-cycle, the cinema, wireless and the dance-hall have quickened life even in the villages. For most of the workers they have opened new windows on the world, making life fuller than they have ever known it before.

Yet still the canker gnaws. My bus conductor, whose first strike of twenty years ago was captained by college men, looks at me askance across the Great Divide of class. To the liftman I am a potential enemy. What thoughts surge behind the placid brows of Jeames, as he serves my soup in a cosy corner of the Club on winter evenings, I hesitate to think. But I can guess.

Yet not one of these men is badly off.

Why is the European worker so bitter?

For one quite simple reason. As Paula Tanqueray, echoing the Greek, reminded us many years ago, "the future is but another gateway into the past." The wild oats of youth have an awkward habit of thrusting their heads through the seams of the floor to terrify middle age.

So it has been in almost every country in Europe. Wherever the men of the last century were faced with the task of controlling the beginnings of industrial development they failed lamentably. True, the age was unripe for the trial; the men themselves were untutored for such a task; the economic and ethical systems of their day failed them at a thousand points. So they blundered tragically; and we pay the price.

Twenty years ago a certain job was required in a hurry from a provincial printing house in Great Britain. The director responsible instructed me "to work the day staff on a night shift as well." This meant that the men had about two hours rest in thirty-six hours. I protested; was told to mind my own

business ; and carried the job through—with the aid of certain liquid refreshment.

To-day, if the director of that or any other considerable printing house attempted to work men through a double shift, he would be met with a strike.

Further, if he made heroic efforts to rush an important job through on overtime, he would expect to be considerably hampered in his efforts by the shop stewards. The wheel has come full circle. Where once the ignorant master misused his power, to-day the union official domineers with the cheerful ineptitude of the dunce. The wild oats of the past have come up through the floors of the printing shop with a vengeance.

The British coal dispute of 1926 was a gruesome but perfect example of this historic complex in action.

For here is the one industry in which employers and employed have remained mentally stranded on the sands of the Victorian era. Many of the owners quite honestly believe that the doctrines of Stuart Mill and Turgot are the *nadir* of economic thought ; while certain of the miners' leaders are perfectly willing to

drink Carl Marx neat. Neither side would forget or forgive anything prior to 1900; to later trends, the minds of belligerent leaders on both sides were closed; of modern methods or concepts they knew nothing and cared less.

The resulting situation proved to be stark tragedy; yet its creators were pure figures of fun, mouthing strange claptrap from the economical sham fights of the 'nineties.

Who is to blame? it may be pertinently asked.

Both parties are responsible in almost equal measure. "A plague on both your houses!" is the cry of middle-class Europe. Occasionally the plaint is echoed even by intelligent combatants.

The union leader, in other words, suffers from all the trials of the political leader in a modern democracy. If he strive to lead the less educated workers by virtue of the light that is in him, he may be a lost man—unless that light happens to flicker as irrationally as the feelings of his thousand followers. For the intrigue that circles about a trade union secretary's chair is as subterranean and as treacherous as that which haunts

the office of a French cabinet minister. With this difference, that the schemers are usually just the young and active men, to whom the officials look for the driving force of their organization. For this very reason the tail of the more aggressive union can wag the dog; whereas a political chief can generally rely on the party machine to discipline the young blood.

We are faced, therefore, with this paradoxical situation. Wages are, generally speaking, higher; hours of work have shrunk from the 54–70 hour week to the 48 hour week; conditions of work are infinitely superior; yet the average worker (not merely the agitator, gentle reader) is more thoroughly dissatisfied and generally difficult than he has been since the European risings and contentions of 1918–21.

Quite simply, why?

For a series of sufficiently cogent reasons. He has ceased to follow an ethic which taught him during the nineteenth century to accept hardship as the rod of God. That "the meek shall inherit the earth" he no longer believes. His new religion of socialism tells him to resist hardships actively and to call all

men his equals—a bracing tonic after his Victorian diet of slops. Further, the education he possesses, however scanty, enables him to read the newspapers—and to discover the errors and inanities of his "betters."

He has recently taken to scrutinizing the balance-sheets of his concern. Reserves and bonus shares form peculiarly irritating problems to the mechanic on £2 5s. a week; whereas the sale of assets and the depletion of reserves are quite gracefully passed over by the chairman in his annual speech. The chairman can always explain away present losses in the light of his hopes for the future.

Of recent years the cinema has made the sins of the idle rich a weekly banquet in every village and town of Europe and the Americas. Some of the rich are growing richer; and a majority of the retail community have said good-bye to trading losses, thanks to artificial price maintenance, and the merchandizing skill which wrings profits out of the rapid turnover of small stocks.

Finally, the interest has gone out of the work. The machine and modern

management has turned the craftsman into a mere mechanical puller of levers. The worker feels he has completely lost control of his work, his concern, and the industrial system which he serves.

Better wages, shorter hours, pleasant working conditions, union protection, are no remedy for all this accumulation of outward change and internal unrest into which the industrial age has plunged the common man.

" You are but a human Robot and our slave," drone the great machines.

Beyond all these he cries aloud for one prize—a say in his own destiny, a hand in the control of the great industrial machine in which he is so minute a cog.

The average worker (as I know him demands a suffrage in industry, such as he has achieved in politics. Indeed the younger workers in Great Britain, Germany, Italy and Scandinavia at least will not rest until they have won it.

In Germany the formation of a workers' committee was made legally necessary in every concern employing twenty or more persons so early as 1920. The working of this drastic enactment has been remarkably successful. After a few

stormy initial passages, individual committees, representing both the wage-earners and the salaried class, have worked harmoniously with the managements. Many Swedish employers have followed the German example with favourable results. In Great Britain the writer knows quite a number of concerns in which this result has been achieved. One Yorkshire silk manufacturing concern has three workers on its board for consultation purposes. In the other cases cautious experiment progresses in the same direction.

Naturally the unions form a real obstacle to the best-intentioned management in this matter.

Almost inevitably the result of putting workers on the board of directors is to impair seriously the influence of the unions. When the workers see their own well-instructed representative clocking off regularly in working hours to attend Board meetings, it is obvious that the shop steward and the union official have become more or less superfluous.

The lengths to which union officials feel compelled to go is almost incredible. Repeatedly I have known unions jettison

(through pure scare) a profit-sharing scheme which would have put thousands of pounds in the pockets of their members in every good year—without reducing wages in any grade by a half-penny.

Recently one official felt that the rates paid to certain of the members by a leading British motor works were too high. In other words, it was his view that the payment of wages so far above the union minimum must react prejudicially on the prestige of his organization. So he solved the problem by calling his men out in protest!

Similarly, the average union official is terrified of the works committee or works council. Another illicit encroachment on hallowed union ground! In cold fact, his fears are normally quite unjustified. What the efficiently conducted works committee does is to reduce the internal causes of friction by keeping the men's point of view before the management, thus saving union officials much tedious and unnecessary detail work. Its sphere is proving to be intra-institutional and local; that of the union is inter-institutional and national.

Such incidents are symptomatic of an

age of labour reprisals. Men and unions alike are determined "to get their own back." Should the enthusiasts deem it necessary to cut off one's nose in order to spite one's face, it becomes *de rigueur* so to do. To do otherwise is considered to be bad form. These sacrifices, it is honestly believed, are demanded by the exigencies of the class war.

Incidentally, the class war doctrine takes no notice of the relative intelligence or humanity of the employers concerned in any given industry. In the older of the heavy industries, for instance, the self-made first and second generations of men lack education and technique, the third tend to lack specific training. In the newer light industries, where the units are relatively small, the employers are highly efficient and still young enough to keep step with advances in welfare as well as production technique. These men travel widely, mix freely with their workers, and devote themselves to their business and the interests of their locality. Yet the British cycle, motor and electrical accessory manufacturer in a large town is hampered almost as much by union restrictions and red-tape as the

most incapable and truculent iron-master or coal-owner. As yet the unions have no eye for the additional wages created by exceptional ability and enterprise in the executive.

The result is an increasing feeling of harassment and futility on the part of the abler men. An inventor and an executive may spend six strenuous months, scouring the world to find and improve some elaborate machine which will assist in cutting costs and capturing markets. When the machine is installed, it may prove its capacity to do the work of twenty or even thirty men, with only two skilled minders. Quite probably, the entire possibilities of the machine and the expert work of half a year may be cancelled out by a union official's bland insistance that, unless thirty men are allocated to the work, he will call his men out.

In such circumstances, why should the expert executive wear out his nerves and his energy in attempting to improve practice? He might just as well go and play golf every afternoon, for all the result his efforts are likely to have in getting new business.

Often Governments themselves are arch offenders in this respect. In 1921 the British railways were grouped, with a view to improving their efficiency and of effecting economies. Obviously, when two lines were serving a small town, one of the stations could be closed. The saving might amount to anything from £5,000 to £25,000 per annum. As it happens, the agreement entered into by the railways with the men's unions stipulates that any railway employee deprived of his work will be given work in the same area. Truly, the housing shortage in Great Britain gave some justification for this safeguarding of the men. But it does not justify an agreement which stultifies any executive effort at economy and efficiency. Still less does it justify railway directors in taking no steps whatever towards that redistribution of population in these islands which the decline of certain north-eastern industries and the rise of other midland and southern industries has made imperative.

In this particular instance there is one factor of hope which may one day alleviate the situation. The Labour

agreement referred to gave the men a representation committee system, covering every area, small and large, which must eventually give them a real insight into the problems of railway management in an age of competitive transport methods.

Apart from the railways, the pottery, glove, match, chocolate and wire-drawing industries are the only British groups in which the joint Industrial Council and Works Committee system can be said to be working satisfactorily to-day. In these industries the workers have taken the first step towards a say in control. In the others employers and men alike are either careless of the basis of prosperity—labour co-operation: or they are wedded to the historic Victorian triology—*laissez-faire*, low wages, and the dog-fight.

CHAPTER IV

The New Industrial Tactic

We have glanced at what the modern machine and the modern managerial technique mean to work and to the worker. How the latter has reacted to these new masters of his destiny, we have surmised.

What of the future? What will happen as these new forces fulfil themselves, or are modified by fresh factors? There is room for a certain amount of uncertainty; but the general trend is already clear.

The average worker, be it said, is perfectly definite in his own mind as to how things are going. He is quite convinced that he receives only a fraction of the money he earns. The rest is filched (just how, he is scarcely certain) by the Money Power, meaning thereby the banks and the financiers. Of the small fraction of his due which he actually receives as

wages, the greater part is stolen from him by the great price-raising conspiracy of middlemen (comprising the advertisers, the wholesalers and the retailers).

All this will have to be changed, argues the worker. As to what will actually happen, he is quite confident. No one reads more carefully the signs of the times. The mirage of the magically socialized state having passed away in the unhappy war-time experiences of state control and the no less harrowing post-war experiments, less radiant visions fill the sky. The disgusting inevitability of gradualness he accepts. Sooner or later the community will run the chief public services (fuel, transport, light and power) through corporations managed on commercial lines and under expert control.

Gradually the Money Power will be broken. First, the power of the great banks over credit will be drastically curtailed; then company law will be amended to prevent both the faking of balance sheets and the wholesale watering of stock; finally, stock exchange gambling will be ruthlessly curtailed. Other means will be found to deal with the

price-raising conspirators. The chief weapons against them will be price control by expert committees and a wide extension of the co-operative movement among the black-coated workers.

With all this accomplished through the combined efforts of his party and the unions, the worker foresees certain definite advantages for his class. Greater security of employment will be certain, higher wages will be at least a probability, while a wider range of social services and amenities must logically follow; and the right to a greater amount of leisure he also regards as assured.

May I digress here for one moment?

Is it not a rather significant fact that to-day the average worker in Britain, Germany or France has a far more definite picture of his society, his relation to it, and of the trend of development within it than the middle class citizen? The latter's mind on these subjects is too often a complete muddle. Necessarily this fact will facilitate the spread of Labour ideals in the communities concerned. For, outside Italy, the more conservative or middle-class forces have failed to focus any definite image of their own ideals on

that blank screen that is the popular mind. One result is inevitable. In the writer's view, Europe of to-morrow will be primarily concerned politically with the problems affecting the hand workers as distinct from the trader, the business man and the *rentier*.

How near is the average worker (under guidance of his *intelligensia*) to the truth ?

Obviously, no definite answer can be given to so far-reaching a question. Prophecy is ever rash. Yet we may, perhaps, go some way towards intelligent anticipation by studying the present trend of the main factors which will shape the future of the worker.

Let us look first at management. The war put a new weapon for efficiency into its hands. That weapon has been fashioned to do in the entire sphere of business precisely what the efficient machine does in the factory, *viz.*, to cut out every waste motion applied to material. This means the elimination of every unessential model, pattern, size and style from the catalogue ; the cutting away of every unnecessary frill in production ; the most economical manu-

facture of the smallest possible number of types and sizes of goods to meet the effective demand at any given moment. Briefly, the elimination of waste material, plant, stocks, warehouse space, accounting work and sales effort.

Investigation has shown that the bulk of orders in many entire industries are for anything from 1% to 10% of the goods made or stocked. In other words, the average house in most industries has been stocking and attempting to sell anything from 9 to 99% times the number of models and sizes that are actually necessary to satisfy the consumer. The new policy wipes out all the others and concentrates on the mass production of the essential few.

By the use of what is called "simplified practice" * in Great Britain (an integral part of the "rationalization of industry" in Germany), full use can be made of the mass production of standardized parts and products. At the same time the amount of capital tied up in stocks is reduced, and office routine is greatly simplified.

* See *Simplified Practice*, by Cecil Chisholm.

THE NEW INDUSTRIAL TACTIC

The new managerial tactic is to apply scientific selection to effort throughout every department of the business. This fits exactly the needs of the machine. So soon as the range of models has been reduced, when styles and sizes have been decimated, frills cut away, a series of dramatic economies are effected.

Long runs are assured to the machines; stock-keeping becomes semi-automatic, mechanical accounting is feasible, selling methods can be simplified and to some extent standardized.

What does all this mean to the worker? The demon Monotony admittedly raises his accursed head. But employment becomes more stable, owing to longer runs; higher output per man now means not merely lower costs, but higher wages; the result tends to encourage the growth of the large-scale business.

Something even more important for the worker's future should happen, although it may never be mentioned at union meetings. (I do not refer to the reduction of prices. This can only directly benefit the worker if he is a purchaser of the goods he makes.) The use of simplified practice must ultimately

give the management the ability to budget ahead. If sales be estimated ahead with some degree of confidence, the work of production can be spread more evenly over the twelve months. The worker should win a new security of employment. For superior managerial skill frequently succeeds in changing seasonal spates and trickles of orders into a steady flow throughout the better part of the year. A steadier, if not a higher rate of profit, encourages the average directorate to take a longer view of the business in which they are engaged. Normally this conduces to a wiser and saner view of their obligations to the workers. Even the most short-sighted director begins to realize that he is not in business for just ten minutes—the delusion of most incompetent boards.

So far, the trend of management alone seems to promise much more than the worker hopes from his union or his party.

What part is finance to play in the evolutionary drama of the next fifty years? Assuredly 1927–1975 will be an age of financial mergers and amalgamations. Finance, however, will not be the

only force driving industry in this direction. For, obviously, the cartel or horizontal trust is the natural device for securing full play to simplified practice and standardization. By one stroke the cartel enables you to simplify production and selling practice throughout an entire industry!

Suppose you cartelize the firms engaged in the making of stoves. Clearly, you can reduce redundant lines not in one stove factory but in all. Better still, you can confine each concern to the manufacture of just that type or types of stove for which it has superior patents, plant and sales force. Consider what this means. The entire selling side can be organized as a single marketing unit. One brilliant salesman can represent the industry's entire possibilities to the buyer of a great foreign nation or combine, where a horde of inferior salesmen of minor concerns had to be interviewed before. Through the immense economies in production cost, sales expense and overhead charges, prices can be drastically reduced, while both products and service are steadily improved.

As simplified practice tends to

stabilize business for a single concern, what may it not accomplish for an entire industry? Almost certainly the worst effects of the alleged "business cycle" can be mitigated; machinery is obviously available to foresee, and therefore to counteract, the force of any given recession or slump. By sheer foresight, coupled with efficiency, that part of the falling sales curve due to competitive ardours and miscalculations by individual firms can be ironed out. Admit so much (as you may quite safely), and a drop in both seasonal and spasmodic unemployment is postulated.

A word here on the financier *per se*. May not his speculations nullify the efforts of scientific industrialists to eliminate unemployment? We touch here on a series of intricate problems in international finance. Into these I have no space to enter here. But one suggestion I may venture.

Admittedly the speculator has it in his power to upset any given industrial apple-cart through ruthless bulling or bearing at a critical moment. What is worse, the time is at hand when entire communities may have the means and the

will for "a flutter," Conditions may be ripe quite shortly for a whole series of new South Sea Bubbles.

Happily there is one powerful new factor of safety. The danger is widely realized. Much devoted research into the incidence of the so-called "business cycle" has shown what a tragic part individual incompetence and stock exchange gambling have played in raising peaks and deepening troughs. As a result, economists and industrial experts in every country in Europe press for legislation to curb stock exchange gambling. Further, the eye of the working-class movement is focussed on the "Money Power" (which is inextricably confused with the banks). When the facts are laid bare by the labour research organizations, the banks are certain to receive a relatively clean bill of health. Interest will then be centred on joint-stock company practice and stock exchange regulation. Obviously drastic legislation will result.

Eventually, therefore, the machine which first brought enormous fluctuations of prosperity and distress to the millions of pastoral Europe should deliver back the

gift of security and the safe job. At length man is beginning to achieve mastery over the monsters of his creation. By grouping industry into large units, and by viewing the whole world as one market, business men will at last be able to produce and to sell on knowledge of the facts and not by guesswork. At length the stabilization of industry will be feasible.

If this does not mean higher wages and lower prices as well as security for the worker, it means nothing at all. The irony of the situation lies in the fact that it will be the inventor, the industrial engineer and the scientist who will secure the new prosperity and power for the worker. The unions can have very little to do with it for the simple reason that the golden apples will be provided by management and the machine—the worker being largely a passive recipient of his good fortune at the hands of the Power God!

Before proceeding to study the actual effects of all these changes on the worker, we may pause to consider an ever-popular conundrum. May not the machine outstrip demand? What will

happen when markets are over-flooded? This is the offensively puerile conundrum which a good many otherwise intelligent people are seriously discussing to-day.

Quite obviously supply will eventually catch up with essential demand in a general sense. (Incidentally, this can scarcely occur in your lifetime, gentle reader. So have no serious fears!) This is surely the ultimate object of any intelligent state—to provide every single citizen with all the goods and services which his needs and temperament demand. At the present moment not a fraction of the inhabitants of any country are supplied with a tithe of the means to health and enjoyment which their imaginations have conjured up.

But suppose every inhabitant of the civilized globe provided with every requisite of the civilized life, as lived by a £2,000-a-year company director of the city of London. Would that prevent every solitary soul among them from desiring something additional, more particularly, something *different?* "The appetite grows by what it feeds on." I predict that the day when everybody has his plane, his country cottage and his

player-piano, will be the day when he will insist on carpentering individual chairs, and building a hut in the garden for his own proper edification. Having a six-cylinder tourer, he will pine for a double-six saloon (or a donkey), and the hunger for a "place in the country" (or a hut) will plague the owner of a cottage in Surrey till he die.

To the improvement of taste there is no end. With every advance in culture a new world of possibilities opens to the individual. For centuries a world might be busied for fifty-two weeks in the year with all the creation of new means to pleasure for the masses through all the arts and sciences.

So soon as public taste in dress, architecture and the arts matures, a variety hitherto undreamed of will be demanded. Probably also, for a time, all manner of things will enter the fashion class, renewing their external form and character with every spring. Which means the purchase of many models, when one might suffice. Already, my lady's shoes follow the chameleon changes of her hats and frocks. The masculine overcoat is rapidly taking to itself a livelier tint

and shape with every fall of the leaf. Quite definitely the car has entered the fashion class. At the moment its feline grace of yesteryear has been demoded by the red-blooded, masculine silhouette of the new season. Those makers who failed to realize the change in fashion have found its imperious history disastrously recorded in their balance sheets. (What matter for irony a Strachey could find in industry's ledgers!)

There is another aspect of the matter. Will posterity really be gravely concerned to keep itself busied for fifty-two weeks in the year? Will anyone take it to heart if the world's essential business be done in twenty-six? I doubt it very much.

More important still, will the average citizen be really anxious to earn (or even enjoy) the amenities coveted by the average £2,000-a-year director of to-day? The question surely conveys its own answer.

Having outfaced the nightmare of "over-production," we may return to our more proper preoccupation with the actual trend of the basic factors affecting business. One conclusion our observations surely compel. The worker has

been too modest in his demands on the future. Science and the machine will do for him far more than he dreams.

Just what his more immediate hopes may be is possibly the point of present interest.

CHAPTER V

The One-Day Week

Up to this point we have been able to keep our feet securely on the ground of economic and industrial fact. Now we must take to the air of surmise and conjecture. But we can at least direct our flight of fancy by the hard facts of business practice and of human nature.

This will entail some dynamiting of accepted theories. For instance, it is invariably assumed that wages are more important to the average man than hours of work. Nothing of the sort! Witness the four-shift week of the miner in good times; study the wage-sheets of any concern in which piece-rates are usual; notice the incidence of absenteeism in almost any industry. Only one conclusion is possible.

In actual fact the average European

worker is far more concerned for his leisure than for his savings. Quite naturally so. The strain of making ends meet falls largely on his wife. For the young bachelor, on a reasonable union minimum wage, no strain is involved; the ends may even pleasantly overlap.

This fact has an extremely important bearing on the future of the worker. For it must largely determine the trend of his own choice.

At this point it may be asked—why are these things so in Europe? The answer will be found partly in the poverty of obvious opportunity for fruitful spending in a typical industrial town; partly in lack of education, which might inflame any type of ambition; and to some extent in the less high-powered selling and advertising attack to which the European worker is exposed; largely, too, in the prevalence in varying degrees of that class-consciousness which makes the display of personal tastes and flourishes taboo in a mining village.

All this will quickly pass. But not for a decade or two; for the increasing monotony of work will accentuate the desire for shorter hours. In dealing with

the more immediate future, therefore, it must be taken into account.

We may honour it here by considering the question of hours before that of wages, which will solve itself with little difficulty. Admittedly the old industrial equipment of hand-loom, hand-pick and hand-lathe, of quill pen and coin of the realm demanded long hours of its servants, if they were to make a profit at the end of year of trading either with the village at home or with the poorer races abroad. But every step in modern industrial development has lessened the labour to the maker and cheapened the price to the buyer.

We have noticed how the 60-70-hour week was already passing away before the world war. After the war the 47 or 48-hour week gained an international acceptance. On the Continent there has been a slipping back in certain instances to the 54 and the 60-hour week; but such cases are more rare than is generally imagined. In cold fact the value of the additional hour of the nine-hour day is largely negatived by the necessity for a breakfast break.

Many of the keener minds in industry

are experimenting with the 44 and 45-hour week. Incidentally, this should mean the five-day week; and a free week-end for the worker.

As a matter of fact the 48-hour week represents a singularly inept and inefficient unit of effort. We start up the entire plant on Saturday morning, incur heavy overheads, bring in clerk, salesman, and drivers, all to secure three or four hours of work, of which not more than two are in the least likely to be productive.

In every department interest is at the lowest ebb on Saturday morning; most of the chiefs are away golfing, which naturally reduces the general *tempo*; indeed the work done by the sales force on Saturdays is admittedly a joke; a meeting with a sales manager is the only conceivable profit it can yield to anybody.

The writer has watched the five-day week experiment in a number of concerns. Normally, its effect has been entirely satisfactory, output being either reduced infinitesimally or actually increased. In some cases an additional hour is worked four days a week, and an extra half-hour on Friday, giving a 46-hour week, instead

of a 47-hour. Sometimes, four hours have been taken quite frankly from the working week. Generally, the result has been better work. A few correspondence clerks, of course, must come in on Saturdays to attend to orders.

In one case, however, the workers failed to put into the extra evening hour the energy which they had exerted on Saturday mornings. So now they work on Saturdays again. Just why this remarkable result was achieved it is difficult to say. But in this industry each job is still individual, with the inevitable strain on the worker when the machine was "speeded up." This trouble science and the machine should eventually remedy.

In due course the five-day week will give place to the four-day week. You may reply, why not the seven-hour day first? Simply because the eight-hour day has certain definite advantages over it. With three shifts of eight hours each machinery can be kept running continuously. The seven-hour day would demand four shifts; and for that the six-hour day would be more economic, provided that labour could earn its need-

ful quota in a thirty-hour week. Eventually this will be easily possible.

But here the three-day week might prove more practically useful; dividing the forty-eight hour week into two equal sections.

Does this picture seem too rosy? Look back to your youth about 1900 for confirmation. Had I said in that year that in 1925 men would fly from London to Berlin in a day; that the music and the speech of every great capital in Europe would be heard by the firesides of England; that the prosperous mechanic would have his motor-cycle or small car; that the working day would have been shortened from ten hours to eight; would you have credited me?

What of the nearer future? What may we expect about 1950? I should hazard a four or five-day week; a working day of six or eight hours, according to the exigencies of the industry and the strain of the work; and immensely improved working conditions.

On the three-day week will follow the two-day week; no circumstance known to the writer (save war) can prevent it. For so soon as man masters the use of

atomic energy, the task of days will become a mere matter of minutes. At the same time the inventor will have reduced the making of most articles to the terms of a few incredibly complicated machines. The small single-process tool will be abolished.

Will it not then be necessary to parcel out work in daily " takes " of an hour or a couple of hours? asks the reader who has studied his Wells and his Shaw. Most certainly it will not. The writers of our modern Utopias have unluckily overlooked the facts of both mechanics and human nature.

By far the ablest argument for his Utopia was presented by Mr Shaw at a public debate on the Kapek's play, *R.U.R.*

Roughly this was Mr Shaw's contention :—

> " The day is coming when every citizen will take it as a matter of course that he should contribute his daily share of service to the community. We shall all have to work for the common good ; and as there will not necessarily be enough professional and intellectual

public service needed to occupy all those who are capable of such service, it may happen that many persons will have to earn their living by labour that has nothing to do with their chosen pursuits.

"What sort of labour will these persons prefer? Suppose they are by predilection mathematicians, historians, musicians, poets, painters, and the like, will they express the horror that such people now feel towards purely mechanical routine—Robot's work in short?

"Speaking for myself, certainly not. If I must do uninteresting work for say two hours a day, let it be Robot's work. I do not ask that my spell of bread-and-butter work shall be such that I may learn to like it, to use my mind on it and so expend vital energy in getting it done. Not at all; the very contrary, in fact. Make it as brainlessly mechanical as you possibly can. For my two hours or so of obligatory service let me be as complete a Robot as possible, so that I may do my job without having to turn my mind on to it. In that way only shall I be able to pay

my daily debt to society without mental exhaustion, leaving off with mind and body unfatigued, and therefore able to devote all my vital energies to the writing of plays or whatever work engages my whole mind and heart." *

National service of some sort is likely enough at one stage of our industrial development. Possibly, the position suggested by Mr Shaw will arrive more rapidly than many of us imagine.

But the daily stint of labour is unthinkable. A purely theoretical conception, it ignores the two factors likely to decide the form of man's labour in the far future. These are—as you guess—the machine and the management plan. Now the one certain characteristic about our machine, prior to the discovery of some new form of power, is that it will give the optimum output only if run continuously on the same job with the minimum of stoppages for overhaul and repairs. This means the six or seven-

* The writer is indebted to Mr S. K. Ratcliffe for this record of Mr Shaw's views, and to Mr Bernard Shaw for very kindly revising and amending the transcript.

day week and the 16 or the 24 hour-day for the machine.

Now presume that the weekly quota of work be eight or ten hours. To divide this up into two-hour daily spells means that every machine will be manned by no fewer than eight or twelve squads during each of its working days. Imagine the work of supervision, the endless repetition of "taking over," the washings-up, the wage cards, the clocking-on and off and the costing sheets involved. The machine shops would become procession grounds. By making us do our eight hours in one spell management and overhead costs would be decimated.

In other words, the one-day week seems to be inevitable at one point in our industrial evolution. If the reader be sceptical, he may refer to some of the figures on output quoted in the first chapter, or he may also consider a typical case taken at random from my records. S.W. is a concern known to me, manufacturing a breakfast food. Twenty-five years ago, a unit of productive power, working six days a week, produced 3,000 cases of goods. To-day a unit containing fewer workers gives

7,000 cases, operating five days. If the one is possible in 1925, why not the other in 2025?

My labour friends often interrupt at this point to ask what will prevent the cunning capitalist from working one staff five or six days a week, and dispensing with the rest. There will be a number of restraints at work. Three will be sufficient. The worker will be able to earn a generous livelihood in one day; he will therefore insist on working no more at the grindstone. In extreme cases, no doubt, his fellows will prevent him from so doing. On the other hand, the State itself will be compelled to restrain an excessive ardour for work in individuals. How else can it ensure that the lackadaisical citizen of an affluent age will do even his small share? Finally, all producers require consumers; for any industry to decimate the number of its employes is simply to decimate the number of consumers of all types of work in the area concerned. The industrial cartels will prevent this particular form of industrial suicide by stringent national agreement.

As to wages, the increasing fecundity

of the machine and the ceaseless improvements in method must necessarily earn ever higher rewards for their servants. Given the increasing productivity of the machine, nothing can prevent the rise of individual producing power. The extensive franchise in every state will ensure the widest dissemination of the new riches.

The early effects of a widespread prosperity are more dubious. We may defer their consideration until a later chapter.

CHAPTER VI

After the Industrial Franchise

Having looked at a factory of 1925, suppose we now glance at a works of 1950. Your first impression is one of brilliant colours everywhere. Positively, the place looks as if Mr McKnight Kauffer had designed it. Against walls of a warm biscuit tint the main structures and guards of the machines stand out in vivid orange, veridian*, and claret. The ceilings bear designs in primrose and dove grey. Why not? Daily every stone and girder is cleaned by electric suction; dust never has time to settle; smoke of any sort is unknown; even the workers are forbidden by law to indulge in smoking here. All refuse and waste is automatically taken up every half-hour.

Your next thought is, how silent are these towering monsters! Only a low hum reaches the ear. There is no sense of vibration underfoot. All the din and

* A delicate shade of light green.

clangour of the ancient workshops has been abolished by the use of electricity and the perfection of silencers. An immense amount of skill has been spent on this, since the industrial psychologists insisted that continuous vibration and noise seriously affected the hearing and the nervous systems of the worker. It is, of course, extremely serious to have the hearing even slightly impaired at a time when the whole activities of state and citizen are directed by and dependent on wireless.

Several pairs of headphones hang conveniently near to each worker. One brings instructions; another is linked to the nearest news service station; while a third gives the daytime programme from the local station. In each shop a screen shows the news in pictures as it comes from the nearest television station. The girls seem to have the head-phones on most of the time, but their brothers lack the ability to attend to two things at once, however mechanical be their work.

When one has become accustomed to the stillness and the general attitude of repose so noticeable among the women

reclining on their scientifically tilted arm-chairs, another impression takes hold of one. The suppressed energy in the air is amazing. Despite the general air of ordered routine and general nonchalance everybody is keenly interested in the job.

Just then a girl operator looked up with an air of annoyance. Rising, she frowningly pushed an electric button by her automatic, switched off the motor, and departed. The machine had shown signs of trouble. Within a minute, she was starting up another machine and a skilled mechanic was in her place attending to the trouble. She is paid by results, like everybody else in the shop; and time is of importance to her pin money.

An idle machine is of importance to the mechanic, too; output reduced by the failure of an automatic in his charge means so much less in his pay envelope; eventually a fraction less off the concern's profits—and his dividends. So he is working over that crippled machine like a Trojan. The industrial franchise, unlike the political franchise, brings responsibilities that cannot be shirked.

In this business everybody from the office boy to the managing director is paid by results. But certain minimum rates are guaranteed to every reasonably efficient worker; the cutting of piece rates, save by mutual arrangement, is forbidden by law; and the fixing of new rates is done by experts unconnected with the concern.

The introduction of piece rates and bonus systems was naturally a long business. The men finally agreed to accept them as a result of certain definite facts regarding the financial state of the business which were put before them by the board.

For the workers, you will realize, have a very definite share in control—and therefore in the responsibilities of management. This was inevitable as soon as they were allowed to purchase the ordinary shares of the company at special prices. Most of the men and a number of the women own shares to-day. The current quotation of the B —— Co.'s shares is the first thing they look for in the morning newspaper as they come up by car or public 'plane. When the "ordinaries" fell 2½d. the other day,

everybody in the building was concerned —including the lift boy at the office.

Let me add that this does not mean one of the old-fashioned profit-sharing schemes, involving " special " shares and non-voting stocks. The shares are bought and paid for by the workers at a price considerably below the market figure. But only 50% of the price need be paid in cash ; the rest may be paid by instalments out of dividends.

The men's capital and labour are represented on the board by several worker directors. These delegates of labour see every vital sales production and ovehead figure, but the information supplied to the workers is not limited to this channel.

There is also a worker shareholders committee largely elected by the men. Each member receives a monthly profit-and-loss statement and the committee is kept in close touch by the worker-directors and executive members with the trend of business. A copy of the annual balance sheet, in an amplified form, is supplied to everybody in the concern ; and at the annual meeting of worker-shareholders, the directors go

much more deeply into every branch of the company's activities and policies than at the general meetings of outside shareholders.

Can you wonder at the general air of alertness and interest? Almost every competent worker in this factory definitely owns a share in it; actively benefits by its prosperity—and suffers from its losses (by an ingenious method of calling-up fresh capital at a pinch); has a say in its control; and a definite hand in shaping many of its policies.

Perhaps the pervading sense of a common interest is due to the educational committee's work as much as to the general holding of shares. For this committee has been tireless in its efforts to show how a waste in one department may nullify a saving made by another; how every hold-up in one shop means delay in the final shipment—and possibly the loss of future orders. The directors are always perfectly frank about the state of the order-book; they know that a general knowledge of the facts will do more to encourage savings and speed than to benefit any competitor by giving him inside information.

You will look in vain here for the shop steward who makes life a misery to the keen foreman. He is more likely to be a help. For since the general adoption of payment by results the unions have become extremely concerned to keep up standards of efficiency. Minimum wages rule so high that the firm with even four or five incompetents in its shops, pays the penalty of higher costs—and orders lost. This jeopardizes its position in the trade cartel. Such a house is useless to the local union official; for it sooner or later contracts employment by going under. Every year the union tests for skill become more exacting.

What happens, you may ask, to the luckless boy with bad eyesight and a poor physique? Can he get a union ticket at all?

Such a boy would never attempt to win a ticket for work of this type. His defective eyesight, poor muscular development and slow reflexes would have been the subject of special study by the school psychologist. Quite possibly he would have been offered a training in some branch of fruit, vegetable, or cereal farming, in which machinery was little

used. Normally, the slower rhythm and pleasant variety of such work would strongly appeal to the boy. Eventually, work would be found which would improve both his physique and his nerves.

Everybody looks fitter than he did in the old days. Most of the people will live to be ninety or a hundred. Partly this may be accounted to the progress of hygiene and medical science. But the architect and the inventor deserve their share of credit. You observe that the whole place is bathed in sunlight (the violet ray included); the air is cleaned and oxygenated every half-hour; and meals are eaten in the factory garden in summer.

Personally, I believe that a good deal of the good looks around the aisles are due to the long week-end. For every one of the men has his car or 'plane, or both. This enables the family to spend two or three days of every week in the country or abroad during six or seven months in the year.

Wandering round the great airy shops for a long afternoon, the settled plan of the place might strike you. Everything

seems to go by clockwork. It seems impossible that anything should ever go wrong. Yet the folk in general scarcely look as if they realized their blessings! Have we struck a melancholy Mondayish afternoon? One might almost say that a feeling of boredom hung over the place.

It does. You will feel it on Tuesdays as well as Mondays: on every day of the week; throughout the twelve long months of the year.

Only one room never knows monotony; the sunny room where the sub-normals ply their routine tasks. These simple souls hug their monotonous packing and arranging of goods like gold. Suggest a more stirring job, and they will either curse or weep. The dullest drudgery is home and comfort to them. At one time the average unskilled worker—and a good many skilled workers—were in the same miserable-happy state of mental development. Monotony he truly knew; and loved it.

That day has passed now. Monotony is become the ceaseless complaint of the men's committee on conditions of work. They claim it to be the bane of their working hours. Indeed, many of the

feebler and older folk profess that they regard their working hours merely as an anodyne.

> "The sad mechanic exercise,
> Like dull narcotics, soothing pain."

The women suffer less than the men. They are able to enjoy the television pictures, to listen in, to dream, while they watch and attend their machines. A few of the men can do this, but they quickly grow tired of pictures and music; the majority frankly can't work and play at the same time. Their cry is for "a real job that we can give our minds to."

To meet that demand is frankly impossible.

Admittedly in every branch of industry an immense amount of fascinating work is being done. The experts are numbered not by scores, but by thousands. An army of artists, scientists, inventors and specialists is at work for the business interests.

Unfortunately, the supply has now outstripped the demand. Since a university education became the birthright of every normally intelligent citizen the number of colleges has multiplied

amazingly. With education comes self-confidence. Hence the huge army of the ambitious, among whose ranks the competition for "creative" work is so intense. Not even the infinite possibilities offered by the development of marketing and merchandising on more imaginative lines could absorb the graduate host with their slogan of "the right to a shirt-sleeve job." More recently the rationalization of distribution has narrowed drastically the possibilities of the star-salesman and the sales organizer.

So for many gifted and highly trained people mechanical work in factory, shop or office is pre-ordained. This poverty of opportunity they strongly resent. The cry of these young people is for creative work in one field or another. For there alone can be won the glittering prizes of individual success and public recognition. In these fields early retirement, with all the amenities of social éclat, is easy to men of distinctive ability. The conditions of work are ideal; no rigid hours are required; yet the tendency of the age is to overdo it. Enthusiasm is so high, rivalry is so keen, that only intense application secures the big rewards. For

here the ablest men in a world of able men are in competition.

Even in the smaller undertakings, every executive is a specialist to-day. He may be skilled in the use of power, in methods of transport, in the automatic conveyance of goods, in the control of a factory or in the management of men. Whatever his sphere, he is professionally jealous for the highest standards of practice. A capacity for successful innovation or managerial ability quickly earns its possessor a considerable financial interest in the concern. In this field, too, early retirement is the order of the day. To step aside in the prime of life is regarded not merely as a sign of successful effort but as socially desirable. It leaves the maximum possible room at the top, while securing virility and enterprise to the most aged or most severely controlled enterprises. No glamour of possible individual success tempts company officials to outstay their prime, as men may be tempted to do in the widening range of the all-absorbing professions.

Naturally there is a certain amount of jealousy between the puller of levers and the men who are lucky enough to have

their coats off at some really stimulating piece of work. How can we avoid it? Happily there exists a safeguard against too strong a class feeling arising. Scientific methods of management enable even the middle-aged worker, who has finally secured an unusual mastery over some phase of his concern's work, to rise to an executive position. This means that there is always hope for the determined plodder to plod eventually out of his rut.

CHAPTER VII

The Age of Extravagance

Compared with the excruciatingly slow and painful crawl of mankind through the ages from one depth of poverty to another, the access of popular riches must be dramatically sudden. Wealth will come to the common man as swiftly and unexpectedly as his new industrial enfranchisement. With the liberation of the masses from drudgery and want will arise an entirely new series of problems.

Freedom from petty anxiety, and the opening of the new avenues to enjoyment, will find men unprepared. Few will be ready for the new way of life. Fewer still will study to fit themselves for it. Instead there will ensue a general orgy of self-indulgence. Everyone will have money to burn, and time in which to enjoy the illumination. At first, the high

wages will be widely wasted, the new leisure largely dissipated.

What training are they likely to possess which will enable them to do otherwise? Is there not a distinct technique in the wise expenditure of money, an exacting art in the discreet enjoyment of leisure? The average citizen is likely to destroy a good deal of both.

We may anticipate an age of extravagance towards the end of the twentieth century. Mankind, having at long length solved the problem of adequate production, will be faced by the problems of consumption.

Consider the situation that must arise.

When a man has been accustomed to regard £5 a week as prosperity, the rise to £10 or £20 a week is startling and may prove demoralizing. He is apt to believe either that he has all the money in the world, or that the perils of life forbid any increase in his expenses. In the first case, he lives beyond his means in certain directions; in the other, he sacrifices any possible benefits which a larger income might have brought him. Either result must be regarded as

disastrous to the individual and the community.

Naturally the former class will largely outnumber the latter. For the self-made man of to-day has generally paid handsomely in money and hard work for his five per cents; hence, his determination to cling to them; and the subsequent growth of a money complex, which generally devitalizes his mental forces.

The new-rich of the future, generally speaking, will have made no particular effort or sacrifice in order to secure a state of relative affluence. Simply it will have happened to them, much as poverty or the plague occurred to millions in the Middle Ages. Hence, the probability of general extravagance.

"Why not a little welcome prodigality?" it may be asked very reasonably. After seven of the leanest years of European history it might be a quite salutary change. The difficulty is that an age of extravagance is socially wasteful and industrially harmful; it wrecks the sinews of national and personal thrift, energy and judgment. It involves a general preoccupation with

superficial and foolish things, falsifies all the standards of values, and so debilitates judgment that the most disastrous of mistakes in policy at home and abroad may result. If this sounds rather like a passage from the late Dr Samuel Smiles, it has also a similarity to some unhappy pages in European history. What the emancipated and prosperous millions may urgently need in the first flush of their good fortune is a Samuel Smiles who can draw on history for his glorification of the wise populace, rather than the successful individual.

As the general level of wealth rises, we may expect to see a parallel growth in the public distaste for social distinctions. It is difficult to see how the titles and the social gee-gaws of certain European states can survive. They will be doubly offensive to a public which has secured a certain amount of affluence before it has obtained that modicum of culture which gives tolerance. Apparently we shall all become relatively wealthy long before we begin to become appreciably cultivated. Here is another problem for the legislator; for the leaders of the working classes will generally be in

power, and the behests of their voters they must obey.

By this time the old political slogans will have succumbed to the march of events. When there are no poor, the Marx-Engels class-war concept can have little appeal; where all are proprietors and shareholders, the call for the workers of the world to unite must lack its evangelical force. Surely the absorbing topic to the average citizen will be politics—national and international.

Possibly, the solution of all these problems will lie in the thorough education of every normal individual in the high art of living. Care will be taken to add to the general and specialized education of every adult, (used in the widest sense) a brief training in the art of *savoir-vivre*. No woman will be without a technical knowledge of the art of budgeting, spending and investing her resources, of whatever value. No man will be left without a sound working knowledge of the same problems along with a grasp of the industrial, financial and commercial structure and practice.

Importance will be attached to that branch of the art of living which has to

do with taste. Great efforts will be made to give modern youth some standards of ethical and æsthetical values, which may serve him to maintain some sense of balance and proportion in his activities and in his interests. Naturally the fanatic and the genius will quite usefully defy all such norms. That is to be expected. Yet they will keep the average man from losing sight of the wood of life among the trees of his own special interests.

Eventually, the age of extravagance must give way to the age of culture. In what particular direction that culture will trend, no man can say. But it is almost inevitable that it will emphasize the Aristotelean concept of the mean in all things, within whose limits alone beauty can be found. For the quest of a people, care free and cultured, must surely be beauty in her most haunting shapes.

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